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TITLE : NEGATIVE ACTIVE MATERIAL FOR LITHIUM SECONDARY BATTERY AND LITHIUM SECONDARY BATTERY USING THIS

ABSTRACT : PROBLEM TO BE SOLVED: To provide a negative electrode material capable of suppressing volume change attendant on charge/discharge cycles without increasing electrical resistance of a negative electrode by including at least one graphite material of flake graphite and globular graphite, and fibrous carbon forming secondary particles having specified particle size.

SOLUTION: Secondary particles having a particle size of 10  $\mu\text{m}$  or more but 30  $\mu\text{m}$  or less are formed. Preferably, when the total amount of graphite material and fibrous carbon is 100 pts.wt. in a negative electrode material, ratio of the fibrous carbon is made 0.5 pts.wt. or more but 22.5 pts.wt. or less. By positioning secondary particles of fibrous carbon between flake or globular graphite particles, volume change attendant on adsorbing/releasing cycles of lithium ions is suppressed, disruption of the negative electrode structure caused by charge/discharge cycles is prevented. As the material for reinforcing the negative electrode structure, fibrous carbon is used, and electric conductivity of the negative electrode is ensured and at the same time, cycle characteristics of a lithium secondary battery are enhanced.

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